



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,885	01/15/2004	Frank Torsten Seide	M61.12-0558	5179

27366 7590 03/19/2008

WESTMAN CHAMPLIN (MICROSOFT CORPORATION)  
SUITE 1400  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 55402-3319

EXAMINER
----------

NEWAY, SAMUEL G

ART UNIT	PAPER NUMBER
----------	--------------

2626

MAIL DATE	DELIVERY MODE
-----------	---------------

03/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/757,885	<b>Applicant(s)</b> SEIDE ET AL.	
	<b>Examiner</b> Samuel G. Neway	<b>Art Unit</b> 2626	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-16 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is responsive to the Amendment filed on 27 February 2008.
2. Claims 1 – 16 are still pending.

### ***Response to Arguments***

3. Applicant's arguments have been fully considered and are persuasive. The 35 USC § 112 rejections of claims 8 – 16 has been withdrawn.
4. Applicant's arguments, with respect to the rejection(s) of claim(s) 1 – 7 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of James et al ("A Fast Lattice-Based Approach to Vocabulary Independent Wordspotting", Proc. ICASSP, Adelaide, 1994) and in further view of Loghmani et al (USPN 6,377,927).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over James et al ("A Fast Lattice-Based Approach to Vocabulary Independent Wordspotting", Proc. ICASSP, Adelaide, 1994) in view of Loghmani et al (USPN 6,377,927).

Claim 1:

James discloses a method of searching audio data (Abstract), comprising:  
receiving a speech query (“keyword pronunciation”, page 1, col. 2, paragraph 4);  
and  
comparing the query with a lattice of phonetic hypotheses associated with the audio data to identify if at least one of the multiple phonetic possibilities is approximated by at least one phonetic hypothesis in the lattice of phonetic hypotheses (“wordspotting stage then becomes a symmetric dynamic programming match of the keyword pronunciation against each lattice”, page 1, col. 2, paragraph 4).

However, James does not explicitly disclose the query comprising a grammar corresponding to pronunciation alternatives that define multiple phonetic possibilities for a segment of input speech.

In a similar searching method using audio data, Loghmani discloses a query comprising a grammar corresponding to pronunciation alternatives that define multiple phonetic possibilities for a segment of input speech (“Several alternate samples of a spoken query are generated by analyzing the phonemic string of the spoken query to create similar, alternate phonemic strings”, Abstract).

It would have been obvious to one with ordinary skill in the art at the time of the invention to represent James’ query using alternative sequences of in order to take into account different pronunciations and to allow users to be less precise when stating a query (Loghmani, col. 5, lines 45-52).

Claim 2:

James and Loghmani disclose the method of claim 1, James further discloses: calculating a score indicative of the difference between said at least one of the multiple phonetic possibilities and said at least one hypothesis in the lattice (page 2, col. 1, lines 5-11).

Claim 3:

James and Loghmani disclose the method of claim 2, James further discloses: adding a penalty value to the score if said at least one of the multiple phonetic possibilities is approximated by disconnected phonetic hypotheses (page 1, col. 2, paragraph 4).

Claim 4:

James and Loghmani disclose the method of claim 1, James further discloses: identifying a plurality of phonetic hypotheses in the lattice of phonetic hypotheses that approximate the query (page 2, col. 1, lines 5-11).

Claim 5:

James and Loghmani disclose the method of claim 4, James further discloses: ranking ("best path score") the plurality of phonetic hypotheses identified (page 2, col. 1, lines 47-50).

Claim 6:

James and Loghmani disclose the method of claim 1, James further discloses: identifying a time span associated with said at least one phonetic hypothesis in the lattice of phonetic hypotheses (page 2, col. 1, lines 47-50).

Claim 7:

James and Loghmani disclose the method of claim 1, James further discloses wherein the query is represented as at least one of a finite-state network, a context-free grammar and a prefix tree (page 2, Table 1, and related text).

***Allowable Subject Matter***

7. Claims 8 – 16 are allowed.
8. The following is an examiner's statement of reasons for allowance: the prior art of record, individually or in combination, does not disclose generating an audio lattice using mutual information as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 2626

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel G. Neway whose telephone number is 571-270-1058. The examiner can normally be reached on Monday - Friday 8:30AM - 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/757,885  
Art Unit: 2626

Page 7

/S. G. N./  
Examiner, Art Unit 2626

/David R Hudspeth/  
Supervisory Patent Examiner, Art Unit 2626